[0067] Then, when the button unit **20** is released, the recovering force stored in the elastic element **200** actuates the shutter unit **26** and the button unit **20**, whereby the shutter unit **26** and the button unit **20** are restored to their original positions, as shown in FIG. **7**B. In other embodiments, a single pressing of the button unit **20** also may result in multiple actuations of the shutter unit **26**, thereby generating a darkness pattern with variations in shadings. A person of ordinary skill in the art can freely design a mechanism for multiple actuations of "the shutter unit **26** and the button unit **20**".

[0068] FIG. **8** is a process flow diagram of a method for performing a configured function of an optical mouse according to another embodiment of the present disclosure. Please refer to FIG. **8**. A method for performing a configured function with an optical mouse is shown, wherein the optical mouse is provided with a conversion unit, a control unit, an optical sensing unit, and a light emitting unit. The conversion unit is electrically connected to a working voltage source, the control unit, the optical sensing unit, and the light emitting unit. The conversion unit is configured to convert voltage to supply power to the control unit, the optical sensing unit and the light emitting unit. The control unit is electrically connected to the optical sensing unit. The method comprises the following steps.

[0069] In step S**801**, a shutter unit is used to block light outputted by the light emitting unit, and the shutter unit is in a light-blocking state to cause the shutter unit to block light emitted by the light emitting unit toward a light guiding unit. In practice, the shutter unit is disposed between the light emitting unit and the light guiding unit. The shutter unit is used to break light emitted from the light emitting unit from entering into the light guiding unit.

[0070] Then, in step S**803**, the optical sensing unit senses a darkness and transfers darkness data to the control unit. The control unit determines a variation in shadings to perform a corresponding configured function. Hence, in step S**805**, the control unit performs a configured function based on the darkness data. The process flow in the present embodiment applies to the optical mice in FIG. **6**, FIG. **7**A, and FIG. **7**B in the previous embodiments. The process flow of FIG. **8** is not limited in the present embodiment.

[0071] FIG. **9** is a process flow diagram of a method for performing a configured function of an optical mouse according to another embodiment of the present disclosure. Please refer to FIG. **9**. FIG. **9** is similar to the method for performing a configured function of an optical mouse in FIG. **8**, with a difference that in step S**901**, the shutter unit is instantaneously at any permutation of at least one light-blocking state and at least one non-light-blocking state, such that the light emitting unit generates a darkness pattern based on any permutation of at least one light-blocking state and at least one non-light-blocking state.

[0072] In step S**903**, the optical sensing unit senses a darkness pattern and transfers darkness pattern data to the control unit. The control unit determines a variation in shadings to perform a corresponding configured function. Hence, in step S**905**, the control unit performs a configured function based on the darkness pattern data. The process flow in the present embodiment applies to the optical mice in FIG. **6**, FIG. **7**A, and FIG. **7**B in the previous embodiments. The process flow of FIG. **9** is not limited in the present embodiment.

[0073] To sum up, the present disclosure is an optical mouse, in which through the turning-off operation of a switch unit electrically connected to a light emitting unit, the light emitting unit generates a darkness or darkness pattern; or in which by a light shielding means through a shutter unit connected between the light emitting unit and the light guiding unit, the optical sensing unit senses the darkness or darkness pattern. Then, a control unit determines variations in shadings such as the darkness or darkness pattern to perform multi-level cursor displacement resolution switching, setting, or multiple configured functions. Thus, the convenience of the optical mouse in use is improved. As such, for the optical mouse, a complex-to-manufacture and interleaved switching circuit can be reduced, the working efficiency in the manufacturing process is improved, and the use and electrical connection of the IO port of the control unit is reduced.

[0074] The above description only provides embodiments of the present disclosure, but is not intended to limit the scope of the present disclosure.

What is claimed is:

1. An optical mouse, comprising:

a control unit;

an optical sensing unit electrically connected to the control unit; and

a switch unit electrically connected to a light emitting unit;

wherein when the switch unit is in a turn-on state, the light emitting unit emits light toward a tracing surface, the optical sensing unit senses light reflected by the tracing surface and transfers optical data to the control unit, and the control unit generates a pointer control signal of movement of a pointing cursor based on the optical data;

wherein when the switch unit is in a turn-off state, the light emitting unit stops emitting light toward the tracing surface, the optical sensing unit senses a darkness and transfers darkness data to the control unit, and the control unit performs a configured function based on the darkness data.

2. The optical mouse of claim **1**, further comprising at least one button unit for activating the switch unit.

3. The optical mouse of claim **2**, wherein when the at least one button unit is pressed, the switch unit is in a turn-off state instantaneously, such that the light emitting unit instantaneously stops emitting light to generate the darkness in a tracing space within the optical mouse.

4. The optical mouse of claim **2**, wherein when the at least one button unit is pressed, the switch unit is instantaneously at any permutation of at least one turn-off state and at least one turn-on state, such that the light emitting unit generates a darkness pattern based on any permutation of at least one turn-off state and at least one turn-on state; the optical sensing unit senses the darkness pattern and transfers a darkness pattern data to the control unit; and the control unit performs the configured function based on the darkness pattern data.

5. The optical mouse of claim **4**, wherein the darkness pattern is a code signal instructing the control unit to perform the corresponding configured function.

6. An optical mouse, comprising:

a control unit;

an optical sensing unit electrically connected to the control unit; and